DOCUMENT RESUME

ED 197 540 EC 131 745

AUTHOR Firestone, Philip; Witt, Jo E.
TITLE Characteristics of Families Completing and Prematurely Discontinuing a Behavioural Parent Training Program.
SPONS AGENCY Ontario Ministry of Health, Toronto.
PUB DATE 80
GRANT DM-304; DM-425
NOTE 27p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Behavior Modification; *Dropouts; Exceptional Child Research; *Family Characteristics; *Family Counseling; *Hyperactivity; *Parent Education

ABSTRACT

Hyperactive children (N=20) and their families that completed 4 months of parent training were compared with children (N=20) and their families that disengaged prematurely. Results from scales measuring emotional adjustment, personality, and intellectual functioning, indicated that children and parents who remained in treatment were older and attained higher IQs than the dropouts; families of female children dropped out more frequently than families of male children; family income tended to be higher in families that completed treatment; and single parents were not more likely to dropout than two parent families. (CL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED197540

U S DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Characteristics of Families Completing and Prematurely Discontinuing a Behavioural Parent Training Program

Philip Firestone, Ph.D.

Jo E. Witt, M.S.

School of Psychology

University of Ottawa and

Children's Hospital of Eastern Ontario

This research was supported by grants from the Ontario Ministry of Health, (DM-304 and DM-425).

Address all correspondence to Dr. Firestone, School of Psychology, University of Ottawa, 651 Cumberland Lane, Ottawa, Ontario. K1N 6N5

EC131745

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Philip Firestone

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Social learning theorists have long stressed the importance of changing the social environment to change behaviour (Ullman & Krasner, 1969) and several programs for teaching the parents to become therapists or agents of change for their children have been developed (Bernal, 1972; Patterson, Cobb, & Ray, 1973). The effectiveness of this type of therapeutic approach has been established by investigations carried out with the parents of aggressive, antisocial and delinquent children (O'Dell, 1974; Reisenger, Ora, & Frangia, 1976) as well as hyperactives (Brundage-Aguar, Forehand, & Ciminero, 1977; Backman & Firestone, 1979). However, it is quite clear that child management training is quite demanding of parents and many either cannot or will not comply with the outlined strategies. Eyberg and Johnson (1974) indicate that 22% of their conduct disorder population rejected treatment outright, while 26% dropped out during an assessment period and 3% during treatment. This left only 35% of the referred population available for evaluation at the end of treatment. Johnson and Christensen (1975) report almost identical results with a similar population. Patterson (1974) also reports high attrition rates, with 8 of 35 referrals rejecting the offer of treatment, while 5 of the remaining 27 dropped out during a baseline assessment, with another 6 terminating before the therapists considered it advisable. This constitutes more than a 50% attrition rate with conduct disorder children. Firestone, Kelly and Fike (1980) also report a 50% drop-out rate with the parents of conduct disorder children treated primarily in groups. On the other hand, some programs using similar treatment procedures report virtually no defectors (Martin, 1977; Kent & O'Leary, 1976; Oltmanns, Broderick, & O'Leary, 1977).

The parent training literature with hyperactives is rather small and contains only three group studies. O'Leary and Pelham (1978) and O'Leary, Pelham, Rosenbaum, and Price (1976) report less than a 10% drop-out rate. Gittelman-Klein, Klein, Abikoff, Katz, Gloisten, & Kates (1976) also report virtually no rejectors or premature terminators in their eight week parent training program. A description stating how children were solicited for this experiment is not provided.

Undoubtedly, differences in patient populations, such as children who are primarily hyperactive as compared with anti-social children, or two parent families (Gittelman-Klein et al., 1976) as compared with single parent families (Oltmanns et al., 1977; Patterson, 1974), contribute to the varying drop-out rates. Another factor that might lead to dissimilarities is the method of recruitment used. For example, Martin (1977) and Kent and O'Leary (1976) solicited subjects through talks with school boards while O'Leary and Pelham (1978) included news media advertisements and Firestone et al. (1980) engaged only children referred by physicians through regular procedures to an outpatient psychology clinic.

A condition rarely described in the aforementioned research concerns the fees involved in the investigations. The families in the O'Leary and Pelham (1978) experiment paid up to an unreported forty dollars per session (Dr. Susan O'Leary, personal communication, 1977) while Firestone et al. (1980) offered free treatment and Martin (1977) paid subjects twenty dollars for completing the required procedures.

Inasmuch as treatment rejection and premature termination appear to be a persistent problem in all forms of therapy, including parent training, the reasons for these disengagements require exploration for several reasons. It is expected that those disengaging from therapy receive minimal if any benefits while they are costly in terms of therapeutic manpower. In addition, some families who may be more likely to benefit from intervention are placed on long waiting lists or denied treatment altogether. The examination of factors underlying early termination may assist in the development of better services (Sue, McKinney, & Allen, 1976).

The present study reports on a variety of factors associated with completing or prematurely discontinuing a behavioural parent training program with the families of hyperactive children seen in an outpatient psychology clinic in a pediatric hospital. The data were collected at the end of the third year of a 5 year study comparing the relative effectiveness of parent training, parent training plus methylphenidate (Ritalin) and methylphenidate alone on the development of hyperactive children. The major focus throughout this research was the utilization of personnel and behavioural procedures readily available in outpatient clinics with a population that is representative of hyperactives usually referred to mental health centers. This report compares the children and families that completed four months of the program with those that disengaged prematurely.

METHOD

Subjects

Children between five and nine years of age referred to the Psychology Department of the Children's Hospital of Eastern Ontario were participants in the investigation. The Hospital is the pediatric center of the region, with a catchment of 600,000 children. The children had as their prime difficulties, over-activity, short attention span, impulsivity, inability to delay gratification and aggressiveness, tantrums or oppositional behaviour (attention deficit disorder with hyperactivity, DSM III). They were required to have a score of 15 or higher on the Hyperactivity Index (HI) of Conners' (1969) behaviour rating scale for teachers (TRS; Goyette, Conners, & Ulrich, 1978). Peabody Picture Vocabulary I.Q.'s were at least 80 and the children were living at home with at least one parent. The hyperactivity had to be in evidence prior to 2½ years of age and present at home and at school. Excluded from the sample were children who showed definite signs of brain damage, epilepsy or psychosis. Families in which either parent was psychotic or in which the marital discord was so great that the parents openly admitted intervention would be impossible, were excluded.

PROCEDURE

All children were referred by physicians. Parents and children were then interviewed by a psychologist (P.F.) and each parent was asked to independently fill out Conners' rating scale for parents (Conners, 1979; PRS) a marital satisfaction questionnaire (Locke & Wallace, 1959), and then demographic data were collected. The identified patient's teacher was then contacted and asked to complete the TRS. If the family met the criteria for inclusion, a full description of the parent training project was given in addition to information on methylphenidate. The parents were informed that if they agreed to participate, they would be offered parent training while their child would be randomly assigned to one of three groups. In one group, the child would be placed on placebo, in another on methylphenidate and then without anyone knowing, be switched to placebo (after the post-tests, approximately 3 months after treatment started). In the third group children would be maintained on medication (see Firestone, Kelly, Goodman and Davey, 1980 for a full description). Parents were told they would be given full information concerning their child's progress immediately after the post-tests. In addition, they were informed that no child would be sacrificed for the sake of the experimental design - that is, if a child was showing adverse effects, the code would be broken and appropriate steps taken to ensure adequate treatment. Parents were also told that if they did not want to participate in the project, parent training of the same quality would be available to them from another therapist. If parents agreed to participate, their MMPI and IQ data were

collected and arrangements for testing the hyperactive child were made. If they rejected treatment, the reasons for this were explored and they were also asked to complete the above measures and tests.

Originally, three groups were to be compared: (a) families that rejected the offer of treatment (N = 20); b) families that agreed to participate but terminated prior to the last session (N = 22) and, c) families that completed all requirements (N = 40). However, due to the large amount of data missing on the parents that rejected treatment, they were not included in the statistical analyses.

Intervention

After the screening and testing procedures were completed, the first requirement was that parents understood the basic social learning framework upon which the intervention procedures were based. This was ensured by requiring that parents read a book on child management (Patterson, 1971). Contingent upon their demonstrating to the therapists, an adequate understanding of the principles, the staff initiated the second phase of training. At this point, parents in individual couple sessions were taught to pinpoint behaviour and collect data on the target behaviours that required change (3 sessions over five weeks). Once sufficient data were collected, they joined a parents group (generally four sets of parents). Medication was distributed at the end of the couple sessions and prior to the parents' groups. In the group sessions, parents learned specific

behaviour management techniques and behaviour change programs through discussion. They were also required to present baseline and treatment information. The groups met for six sessions over approximately eight weeks. During the third session of the groups, parents were instructed on how to best deal with school personnel, home-school contracting was described and parents were encouraged to set up such contracts with teachers. One consultation session with the child's teacher was held at the initiation of treatment and one after the home contracting was established. Approximately 80% of all patients were treated by a PhD level psychologist with an M.A. psychology trainee as co-therapist. The remaining patients were seen by M.A. co-therapy teams who had previously been co-therapists in this parent training program. All intervention was supervised by the senior author.

Given the nature of the medical health plan in Ontario, Canada, virtually all health services are free and patients are at liberty to seek aid at any health center they choose without repercussion. Therefore, no fees or monetary deposits were in effect in the present study.

Rating Scales and Tests

Conners' Rating Scales

Conners (1969) developed a widely used rating scale for teachers. The TRS, a scale of 39 items had been factor analyzed to produce five factors.

Only the HI (Goyette, Conners, & Ulrich, 1978) was analyzed in this experiment and the score is based on the total score within the factor (a four point scale, 0-3, is used). This factor has been utilized extensively to assess the effectiveness of psychotropic medication with hyperactive children and has been repeatedly shown sensitive to drug effects (Firestone, Davey, Goodman, & Peters, 1978; Sprague, Christensen & Werry, 1974).

Conners (1970) also developed a rating scale for parents that discriminates between hyperactive, neurotic and normal control children (PRS). This 93 item scale has been factor analyzed to produce eight factors but only the HI was used. It is scored the same way as the TRS.

Assessment of emotional adjustment

Weiss, Kruger, Danielson & Elman (1975) developed this scale to assess the emotional adjustment of hyperactive children in a long-term follow-up of children on methylphenidate or chlorpromazine. This is a three point scale based upon an interview with the parents by a senior psychologist (1, normal; 2, slightly disturbed; 3, severely disturbed). The score is based on the total of seven factors; peer relations, mood, sexual adjustments, relationship with adults, adjustment to authority, number of nervous symptoms and rate of delinquency.

Locke-Wallace Marital Adjustment Test

Locke and Wallace (1959) devised a questionnaire to measure marital adjustment which reliably discriminated between good and poor marriages. The mean adjustment score for the well adjusted group was 135.9 and for the maladjusted group, 71.1. Only 17% of the maladjusted group received scores of one hundred or higher, whereas 96% of the well adjusted group achieved scores of 100 or more. This scale has been used extensively in research (Johnson & Lobitz, 1974; Margolin, 1978; Oltmans et al., 1977).

Minnesota Multiphasic Personality Inventory

The MMPI is the most widely used objective test of personality. It allows for a symptomatic self assessment covering a wide range of complaints and fears and in addition, taps a number of areas of distress and allows for an actuarial classification of acknowledged concerns. The test is self administered with the subject answering true or false to a large number of short, structured narrative statements. It is the most widely used personality inventory in research (Butcher & Tellegen, 1978).

Shipley Institute of Living Scale

The Shipley Institute of Living Scale was introduced as a measure of intellectual impairment and deterioration (Shipley, 1940a, 1940b)

but is now used principally as a brief scale of current intellectual functioning. It consists of a vocabulary test and an abstract reasoning test and is administered in 20 minutes. The scale has been found to correlate highly with other tests of intellectual functioning.

Results

Eighty five families met the inclusion criteria and were offered treatment. Of these, three declined participation because the possibility existed that their children might receive medication. These families were not included in the analyses. Twenty other families refused treatment. The majority of these parents claimed they did not have time for the sessions, while a smaller number indicated they could deal with the child alone. All other families agreed to participate fully in the treatment program. Nevertheless, six dropped out during or just after the pretesting and sixteen families discontinued within the first three sessions. No families ceased attending once group meetings commenced. In total, 40 families or 49% of patients for whom parent training was agreeable actually completed the training sessions.

The characteristics of the children are presented in Table 1. Analyses of variance revealed that there were significant differences between the groups in age and Peabody Picture Vocabulary I.Q.'s. Post-hoc analyses (Scheffé's procedure) indicated that the children in the drop-out group were significantly younger than the children in the other groups ($p < .05$) which did not differ from each other. In addition, the children completing therapy had significantly higher I.Q.'s than the rejectors and drop-outs who did not differ from each other ($p < .01$).

Since there was a significant correlation between mothers' and fathers' HI scores ($r = .45$, $p < .001$), only mothers' scores are reported. It is of interest to note that despite the significant correlation fathers rated their children less hyperactive than mothers ($\bar{X}_s$ of 17.2 and 19.90 respectively, $t(50)=3.49$, $p < .001$). There were no differences between the groups on the HI as rated by mothers and teachers or on emotional adjustment as rated by the independent clinician.

A signifiant chi square of the sex distribution within the three groups (Table 2) resolved a differential sex effect. Further analyses indicated that female children were more likely to drop out of treatment than complete it, as compared to male children $\chi^2(1) = 8.13$, $p < .004$. The other comparisons did not achieve significance.

Since the literature concerning drop-outs in adult psychotherapy indicates that premature terminators tend to have lower I.Q.'s and fewer completed years of schooling (Bergin and Lambert, 1978), one-tailed t-tests were conducted on these data. As Table 3 demonstrates, the families completing therapy differed considerably from those who dropped out. Although there were no differences in number of siblings or marital satisfaction, it was clear that the parents completing therapy were older and had higher I.Q.'s. There was also a trend suggesting that within the completed group mothers had more education and family income was higher.

Table 4 lists the MMPI scores of the parents within the two groups. Since no predictions could be made for parents on these scores two-tailed t-tests were utilized.

CHARACTERISTICS OF DROP-OUTS

Discussion

The primary purpose of this investigation was to examine the characteristics of families who complete or prematurely terminate behavioural parent training programs. Conceivably, the findings are limited by the uniqueness of the population studied (e.g. hyperactives and their parents). Furthermore, the possibility of children being placed on medication might have altered the composition of the groups and may have acted as a confounding variable. Some parents may have claimed a lack of time or desire to solve their own problems when the true reason for not participating fully was the "threat" of medication. It is unlikely however, that the actual introduction of medication with its often dramatic effects, caused parents to discontinue since the medication was provided for the children only at the end of the individual sessions and no parents withdrew during the group sessions. Caution must be exercised nevertheless, in interpreting the data in some instances, due to small sample size (there were only three single parents in each of the three groups).

The data are quite clear concerning several findings. The children and parents who remained in treatment were older and attained higher IQs than the drop-outs. Similar findings are evident in the adult psychotherapy literature (Bergin and Lambert, 1978). This particular

intervention program which required parents to read a book thoroughly, discuss the contained concepts and then get involved in a rather structured learning situation, may have been particularly foreign to or difficult for those with poorer learning skills.

Whether the age difference reflects a greater maturity towards problem solving or intolerance for disruptive behaviour is unclear. Given the histories of the "older" group, one might speculate that they had tried virtually "everything else" for their children with little success. Thus they were more desperate for help. The younger group, on the other hand might not yet have experienced such failures.

Families of female children dropped out of therapy more frequently than families of male children. An analysis of the mothers' and the teachers' HIs for boys and girls in the three groups did not reveal significant differences, suggesting the differential drop-out by sex was not a function of boys being seen as more problematic. Possibly this is evidence of a sex bias leading parents to worry more about behaviour problems in boys as compared to girls.

The fact that marital satisfaction did not distinguish between the two groups was not unexpected. It appears that those parents experiencing the most serious marital discord rejected therapy altogether. For parents in this group, that agreed to fill out the forms the mean marital satisfaction scores for mothers was 81.80 (N = 9) and fathers 99.80 (N = 8).

In addition, Oltmanns et al., (1977) found that in their parent training study, pretreatment level of marital discord was not related to the degree of positive change observed at therapy termination.

Family income tended to be higher in the families that completed treatment. This has often been found in the adult psychotherapy literature (Bergin, 1978). Furthermore Rinn, Vernon and Wise (1975) report that low income families (less than $5,000 annually) attended fewer parent training sessions than middle income groups ($5,000 to $20,000) annually). The mean income of families in the present study was considerably higher making comparisons difficult.

A surprising finding, that might have been due to small sample size was that single parents (mothers) were not more likely to drop out of treatment than two parent families. There were three single parents who dropped out while three remained in treatment. The equivalent numbers for two parent families were 19 and 37. Compared to two-parent families single parents appeared to have lower incomes ($24,000 and $17,400 respectively). This often made it difficult for them to attend sessions, afford baby-sitters and provide certain material and social rewards for their children and themselves. In addition, single parents often lack the social and emotional support systems available in two-parent families. Oltmanns et al., (1977) also report a higher but not signifiant difference in drop-out rates with single as compared to two-parent families (40% or 14%).

The personality characteristics of the parents in the two groups, as measured by the MMPI, were rather revealing. Mothers completing therapy differed from drop-outs on two of the three validity scales and four of the five clinical scales. Mothers completing therapy appeared more consistent and somewhat more defensive than drop-out mothers. Mothers terminating prematurely were less traditional in their female roles, showed more idiosyncratic thoughts, had more physical complaints and were more suspicious. There was also a tendency towards more depression and acting out in these women. Fathers in the two groups did not differ as much as mothers. Those completing therapy appeared to be somewhat more rigid and defensive but otherwise indistinguishable from the drop-outs.

The wholesale administration of parent training programs without taking the parents' problems or unique personality styles into consideration may invite high attrition rates. It is not improbable that in certain situations parents may well have to resolve their own crises, before embarking on a program to enhance parenting skills. Or, at the very least, some parents may require adjunct treatment.

Loney and Halmi (1980) cogently argues that research that does not take exclusion variables into account does not provide much information with which to specify predictors of treatment response. Neither does this research allow for a matching of patient variables with the various treatment modalities that are available. In fact, it is suggested that treatment evaluations that do not account for such variables produce inflated results favouring the interventions being considered.

The assessment of demographic, economic, intellectual and personality factors seem essential for maximum therapeutic impact. Each of these dimensions may dictate tailoring the therapeutic regimen to suit patient needs. These changes are limited only by the ingenuity of the therapists. For example Eyberg and Johnson (1974) and Rinn et al. (1975) found that partial reimbursement of fees contingent upon successful completion of tasks resulted in decreased drop-out rates, higher attendance and more completed assignments. In situations where fees are not possible such as with medicare or third party payments, redeemable deposits, monetary or otherwise, might serve the same purpose.

Finally, the interest concerning premature therapeutic termination is predicated on the assumption that staying in treatment is related to more desirable results. Unfortunately there is a paucity of data concerning the long term outcome of treated families and an even greater dearth of information on families that drop out of treatment. Only when such information is available will it be known whether the concern with completion of treatment is justified.

TABLE I

Characteristics of the Children

	Rejectors	Drop-Outs	Completed	f	df	p
Age	7.40 ± 1.37 (20)	6.23 ± 1.38 (22)	7.54 ± 1.69 (40)	5.65	79	.01
I.Q.	106.33 ± 12.67 (12)	105.14 ± 16.24 (21)	116.56 ± 16.04 (39)	4.45	69	.02
Mothers' HI	19.23 ± 5.57 (13)	19.19. ± 6.65 (21)	20.63 ± 4.49 (40)	.59	71	-
Teachers' HI	1.89 ± .54 (11)	1.80 ± .51 (17)	1.80 ± .35 (40)	.201	65	-
Emotional Adjustment	12.67 ± 3.5 (6)	12.25 ± 2.77 (12)	12.63 ± 3.07 (32)	.07	47	-

TABLE 2

The Number of Children in the Reject,
Drop-Out and Completed Groups

	Rejects	Drop-Outs	Completed
Males	17	14	38
Females	3	8	2

$x^2(2) = 10.48, p < .005$

TABLE 3

Characteristics of the Families

	Drop-Outs	Completed	t	df	p
Mothers' Age	31.00 + 4.56 (22)	35.23 + 6.36 (39)	2.96	54	.01*
I.Q.	104.68 + 10.56 (19)	109.26 + 8.93 (39)	1.62	30	.05
Education	11.62 + 2.46 (21)	12.67 + 2.41 (39)	1.58	40	.06
Marital Satisfaction	104.38 + 27.14 (16)	107.76 + 26.03 (38)	.42	27	-*
Fathers' Age	34 + 5.07 (20)	38.21 + 7.67 (39)	2.52	53	.01*
I.Q.	104.80 + 12.24 (15)	110.63 + 10.47 (38)	1.63	23	.05
Education	12.45 + 3.7 (20)	13.42 + 2.73 (38)	1.04	30	-
Marital Satisfaction	104.27 + 27.67 (15)	107.58 + 29.89 (38)	.38	27	-*
Income	23,33 9,635 (21)	26,403 + 11,424 (39)	1.46	47	.08*
No. of Sibs	1.24 + 1.85 (22)	1.13 + 1.04 (40)	.37	55	-*

* two-tailed t-tests

TABLE 4

Minnesota Multiphasic Personality Inventory (MMPI)
T Scores for the Parents

Mothers*	Drop-Outs	Completed	t	p
L	49.95 ± 5.44	50.32 ± 6.29	.23	-
F	57.20 ± 10.13	52.53 ± 6.25	2.21	.02
K	48.70 ± 7.64	53.88 ± 9.13	2.18	.02
Hs	56.55 ± 12.40	51.32 ± 8.39	1.93	.03
D	62.6 ± 15.03	56.324 ± 10.91	1.805	.07
Hy	59.5 ± 13.84	56.40 ± 8.52	1.07	-
Pd	60.90 ± 14.00	54.275 ± 12.57	1.85	.07
Mf	52.25 ± 7.55	47.125 ± 7.79	2.42	.01
Pa	58.85 ± 13.24	52.400 ± 10.66	2.03	.05
Pt	58.15 ± 12.06	53.675 ± 9.67	1.55	-
Sc	57.8 ± 12.59	50.65 ± 8.28	2.64	.01
Ma	55.8 ± 9.55	51.85 ± 9.70	1.49	-
Si	57.65 ± 10.54	54.825 ± 9.49	1.05	-
Fathers**				
L	46.133 ± 6.71	51.270 ± 6.62	2.52	.01
F	56.667 ± 10.45	52.135 ± 5.16	2.10	.04
K	51.133 ± 8.49	56.432 ± 9.20	1.92	.06
Hs	51.0 ± 7.67	52.162 ± 7.41	0.51	-
D	54.667 ± 9.29	55.919 ± 10.04	0.42	-
Hy	55.60 ± 9.06	54.622 ± 9.59	0.37	-
Pd	58.0 ± 13.85	54.0 ± 9.58	1.19	-
Mf	57.4 ± 7.24	57.27 ± 8.31	0.05	-
Pa	51.2 ± 10.01	51.919 ± 6.37	0.31	-
Pt	49.933 ± 7.29	52.324 ± 8.68	0.94	-
Sc	50.333 ± 10.03	50.919 ± 8.48	0.14	-
Ma	58.60 ± 12.95	53.054 ± 10.34	1.63	-
Si	49.078 ± 7.75	52.487 ± 9.89	1.20	-

* Drop-Outs N = 20 Completed N = 40
** Drop-Outs N = 15 Completed N = 37

References 21

Backaman, J.E. and Firestone, P. A review of psychopharmolocigal and behavioral approaches to the treatment of hyperactive children. American Journal of Orthopsychiatry, 1979, 49(3), 500-504.

Bergin, A.E., & Lambert, M.J. Evaluation of therapeutic outcomes. In S.L. Garfield and A.E. Bergin (Eds.), Handbook of Psychotherapy and Behavior Change. New York: John Wiley and Sons, 1978.

Bernal, M.E. Training parents in child management. In Bradfield, Robert (Ed.). Behavior of learning disabilities. Academic Therapy Publ., San Rafael, California, 1972.

Brundage-Aguar, D., Forehand, R. and Ciminero, A.R. A review of treatment approaches for hyperactive behavior. Journal of Clinical Child Psychology, 1977, Spring, 3-10.

Butcher, J.N. & Tellegen, A. Common methodological problems in M.M.P.I. research. Journal of Clinical and Consulting Psychology, 1978, 46, 4, 620-628.

Cohen, N.J., Douglas, U.I. and Morganstern, G. The effect of methylphenidate on attentive behavior and autonomic activity in hyperactive children. Psychopharmacology, 1971, 22, 282-294.

Conners, C.K. A teacher rating scale for use in drug studies with children. American Journal of Psychiatry, 1969, 126, 884-888.

Conners, C.K. Symptom patterns in hyperkinetic, neurotic and normal children. Child Development, 1970, 41, 667-682.

Eyberg, S.M., & Johnson, S.M. Multiple assessment of behavior modification with families. Journal of Consulting and Clinical Psychology, 1974, 42 (4), 594-606.

Firestone, P., Davey, J., Goodman, J.T. and Peters, S. The effects of caffeine and methylphenidate on hyperactive children. Journal of American Academy of Child Psychiatry, 1978, 7, 445-456.

Firestone, P., Douglas, V.I. The effects of reward and punishment on reaction times and autonomic activity in hyperactive and normal children. Journal of Abnormal Child Psychology, 1980, 3, 201-216.

Firestone, P., Kelly, M.J. and Fike,S. Are fathers necessary in parent training groups? Journal of Clinical Child Psychology, 1980 (In Press).

Garfield, S.L. Research in client variables in psychotherapy. In Garfield, S.L. and Bergin, A.E. (Eds.). Handbook of Psychotherapy and Behavior Change. New York: John Wiley and Sons, 1978.

Gittelman-Klein, R., Klein, D.F., Abikoff, H., Katz, S., Gloisten, A.C., and Kates, W. Relative efficacy of methylphenidate and behavior modification in hyperkinetic children: An interim report. Journal of Abnormal Child Psychology, vol. 4, No. 4, 1976, 361-376.

Goyette, C.H., Conners, C.K., & Ulrich, R.F. Normative data on revised Conners parents and teachers rating scales. Journal of Abnormal Child Psychology, 1978, 6, 221-236.

Grayson, H. Psychological admissions testing program and manual. Los Angeles: Veterans Administration Center, 1951.

Johnson, S.M., and Christensen, A. Multiple criteria follow-up of behavior modification with families. Journal of Abnormal Child Psychology, 1975, 3 (2), 135-154.

Johnson, S.M., and Lobitz, G.K. The personal and marital adjustment of parents as related to observed child deviance and parenting behaviors. Journal of Abnormal Child Psychology, 1974, 2, 193-207.

Kent, R.N., and O'Leary, K.D. A controlled evaluation of behavior modification with conduct problem children. Journal of Consulting and Clinical Psychology, 1976, 44, 585-596.

Locke, H.J., & Vallace, K.M. Short marital adjustment and prediction tests: Their reliability and validity. Journal of Marriage & Family Living, 1959, 21, 251-255.

Loney, J., & Halmi, K.A. Clinical tratment research: Its design, execution, analysis, and interpretation, or, How I stopped worrying and learned to love regressing. Biological Psychiatry, 1980, 15, 147-156.

Margolin, G. Relationship among marital assessment procedures: A correlational study. Journal of Consulting and Clinical Psychology, 1978, 46, 1556-1558.

Martin, B. Brief family intervention: Effectiveness and the importance of including father. Journal of Clinical and Consulting Psychology, 1977, vol. 45, 1002-1010.

O'Dell, S. Training parents in behavior modification: A review. Psychological Bulletin, 1974, 81, 418-433.

O'Leary, S.G., & Pelham, W.E. Behavior therapy and withdrawal of stimulant medication with hyperactive children. Pediatrics, 1978, 61, 211-217.

O'Leary, D.K., Pelham, W.E., Rosenbaum, A., Price, G.H. Behavioural treatment of hyperactive children: An experimental evaluation of its usefulness. Clinical Pediatrics, 15 (6), 1976, 510-515.

Oltmanns, T.F., Broderick, J.E., and O'Leary, K.D. Marital adjustment and the efficacy of behavior therapy with children. Journal of Consulting and Clinical Psychology, 1977, 4, 724-729.

Patterson, G.R. Families: Applications of social learning to family life. Champaign, Illinois: Research Press, 1971.

Patterson, G.R. Retraining of aggressive boys by their parents: Review of recent literature and follow-up evaluation. Canadian Psychiatric Association Journal, 1974, 19, 142-158.

Patterson, G.R. A social learning approach to family intervention, vol. 1. Families with aggressive children. Costalia Press Publishers, 1975.

Patterson, G.R., Cobb, J.A., Ray, R.S. A social engineering technology for retraining the families of aggressive boys. In Adams, H.E., & Unikel, I.P. (Eds.). Issues and trades in behavior therapy. Springfield, Illinois: Charles C. Thomas, 1973.

Paulson, M.J., and Lin, T. Predicting WAIS IQ from Ship-Hartford scores. Journal of Clinical Psychology, 1970, 26, 453-461.

Reisenger, J.J., Ora, J.P., and Frangia, G.W. Parents as change agents for their children: A review. Journal of Community Psychology, 1976, 4, 103-123.

Rinn, R.C., Vernon, J.C., and Wise, M.J. Training parents of behaviorally disturbed children in groups: A three year's program evaluation. Behavior Therapy, 1975, 6, 378-387.

Shipley, W.C. A self-administering scale for measuring intellectual impairment and deterioration. Journal of Psychology, 1940, 9, 371-377. (a).

Shipley, W.C. Shipley Institute of Living Scale for measuring intellectual impairment: Manual for direction and scoring key. Hartford: Neuropsychiatric Institute of the Hartford Retreat, 1940 (b).

Sprague, R.L., Christensen, D.E., Werry, J.S. Experimental psychology and stimulant drugs. In Conners, C.K. (Ed.). Symposium on the Clinical Use of Stimulant Drugs in Children. Amsterdam, Excerpta, Medica, 1974.

Sue, S., McKinney, H.L., and Allen, D.A. Predictors of the duration of therapy for clients in the community mental health system. Community Mental Health Journal, 1976, 12, 197-203.

Ullman, L.P., & Krasner, L. A psychological approach to abnormal behavior. Englewood Cliffs, N.J.: Prentice-Hall, 1969.

Weiss, G., Kruger, E., Danielson, U., and Elman, M. Effect of long term treatment of hyperactive children with methylphenidate. Canadian Medical Association Journal, 1975, vol. 112, 159-165.

Winer, B. V. Statistical Principles in Experimental Design, Second Ed., New York: McGraw-Hill, 1971